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down the river with the current. The horseman, who had easily followed us when we were feeling our way up-stream, was now obliged to gallop hard; but the uneven country and the numerous canals checked his progress, and he lagged far behind, so that he reached the gate of the fort when we had already long passed it, and when it was too late to adopt any measures for arresting our progress. A Khivan officer, in a high sheep-skin hat and bright silk robe, galloped after us on a horse which he had hurriedly mounted without a saddle (evidently we had not been expected to return so soon), and shouted to us that the Bek expected us to visit him, that he had prepared an excellent repast, that we ought not to disappoint him, and so forth. I continued my course, however, without stopping, and answering the officer that I was sorry not to be able to visit the Bek on that occasion, sent him my compliments, wished him good health and much happiness, and soon disappeared. We only saw at a distance that the horse of the Khivan envoy came to a dead stop at a broad ditch full of water, and how the rider tore off his hat from his head in despair, and dashed it to the ground.

The depth of the bar of the Ulkun-Daria is subject to constant change; crossing it in July of the year 1859, I found only  $2\frac{1}{2}$  feet of water, and was obliged to unload my steamer entirely, and to send out men with spades to dig out a channel, through which we advanced inch by inch. In August and September, however, of the same year there were 4 and  $4\frac{1}{2}$  feet on the bar, and I easily steamed over it.

Besides the four principal mouths of the Amu-Daria, viz., the Aibugir, Taldyk, Ulkun-Daria, and Yangy-Su, there are several other intermediate embouchures which open into the sea, but these are all very small, shallow, and are covered with reeds.

VIII.—*On Part of Mesopotamia contained between Sheriat-el-Beytha, on the Tigris, and Tel Ibrahim.* By Lieutenant J. B. BEWSHER, Surveyor in Mesopotamia.

*Read, April 8, 1867.*

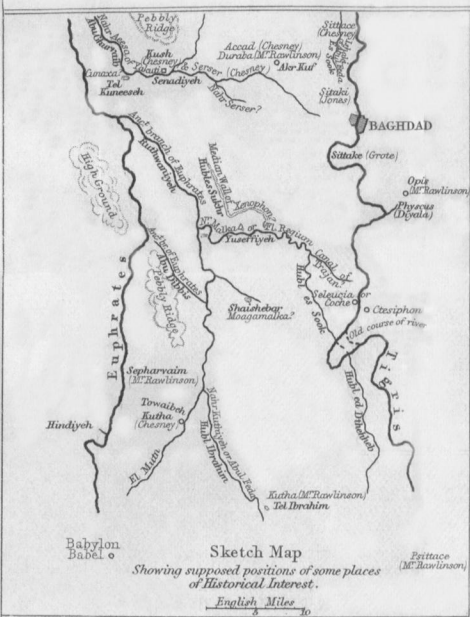
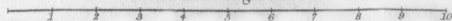
THE sheet of the survey of Mesopotamia, which has just been completed, extends from Sheriat-el-Beytha, on the Tigris, 10 miles north-west of Baghdad, to the large mound of Tel Ibrahim, nearly in the centre of the Jezireh (or Mesopotamia), and 19 miles N.N.E. of Hillah. This is the northern point in the sheet completed by Lieutenant Collingwood.

The work was taken up by Commander Selby and myself in



Trigonometrical Survey of a part of  
**MESOPOTAMIA**  
FROM SHERIAT EL BEYTHA  
(on the Tigris)  
TO TEL IBRAHIM  
to accompany the Paper by  
Lieut. J. B. Bewsher

Scale of 10 English Miles



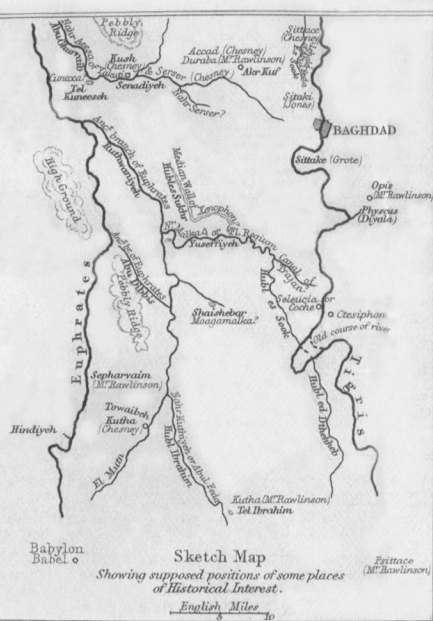
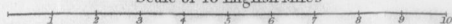
Sketch Map  
Showing supposed positions of some places  
of historical interest.

English Miles





## Scale of 10 English Miles



### Reference

*Ancient supposed navigable canals*

### Unused irrigants or branch canals

### Canals in actual use

*Ruins converted by time into Tels or mounds*





BAGHDAD  
Lat. 33° 20' N.  
Long. 44° 25' E.  
(Gunn's Jones)

the autumn of 1862. Several things occurred to prevent the completion of the sheet till the autumn of 1865. In the first place, the Montafik rebellion rendered the country unsafe for a time. As soon as this affair was settled, my services were required by the Political Agent in connexion with the telegraph then being erected between Baghdad and Busreh. When I was again able to go on with the survey, Commander Selby had retired, and I had succeeded him as surveyor in Mesopotamia. In attempting to give a brief description of the country contained in this sheet, I purpose following down, as far as possible, the course of the old navigable canals which can still be traced. I shall confine myself almost entirely to a description of the ancient streams, canals, and ruins; for the present appearance of the country offers a sad contrast to the Mesopotamia of Greek and Roman authors, or even to the Jezireh of the time of the Abbasside Khalifs of Baghdad. Little need be said of the few modern canals and scant cultivation of the present day.

In the north-east corner of this sheet, and less than a mile and a half from the Tigris, is the bed of an old stream, now called Es Sook, or the Bazaar. It runs down towards Baghdad, the environs of which city it formerly supplied with water. It appears to have been regularly built, as ruins run along both banks till within a mile and a half of the town (or suburb of Baghdad) called Kathemain. It is supposed by Chesney to be identical with the Ishaki canal, dug, according to Abul Feda, in the time of the Khalif Muta Wakkel (A.D. 850) by Ishak Ibn Ibrahim ('Expedition to the Euphrates and Tigris,' vol. i. p. 27). Its present name of Es Sook, or the Bazaar, is given to it by the Arabs, from its bearing, in places where it has been deepened, some fanciful resemblance to a bazaar. This name is not an uncommon one apparently for old canals, there being two so called close to Baghdad.

I may here remark that, as a rule, the canals which appear to have been navigable have low banks, but slightly raised above the surrounding level. They generally wind considerably, and have ruins on their banks, often lining them for miles. In some places, near large ruins, they appear to have regularly built sides. From these streams irrigants were given off, and led over the country in every direction possible. These have frequently high banks of from 20 to 30 feet, and in some instances even higher. This is accounted for from the fact that the running streams were kept clear by the rush of water through them; whereas the derivations from them were only used during the spring or early summer, when the rivers are high. These had to be cleared out yearly of the deposit left by the muddy waters. This was heaped up on the sides till they had reached such a

height that it became less laborious to dig a new canal than to travel up the steep sides of the old one with the mud dug out of the bottom. Thus five or six canals, with formidable high banks, may be seen running side by side for miles, the parent stream being so indistinct that at times it is difficult to trace it. This system of deepening and digging new canals is carried on at the present day.

The supposed navigable canals or constant streams are marked, on the map, with two open lines, the supposed unused irrigants with black lines. The ruins on the banks of the Sook are so considerable that several have supposed the site of Sittaki to be here. Though the swamp from the Saklawiyeh canal has done its best to obliterate these ruins, yet the country around is still covered with bricks and debris of buildings, to such an extent that there are at first sight good grounds for this supposition.

There are two hollows along the line of the Sook which have apparently been made by the rush of water from the Saklawiyeh marsh. They are half a mile apart. The southern one is called Ain, or Aineh Hadawiyeh, and the northern, Ain Serakha. Ain is the Arabic for a spring of water. The Serakha pond is about 180 yards in diameter, and so deep that water remains in it all through the hot season. On the eastern bank there is a ruin completely below the level of the ground. It is composed of bricks embedded in bitumen. These are 13 inches square, and  $2\frac{1}{2}$  to 4 inches thick; they are cut out of the bitumen in which they are embedded, and carried to Baghdad for sale.

The town of Kathemain is clustered round, and derives its name from, the tomb of two Imams buried there. These are Imam Musa el Kathem, the seventh in direct ascent from Fatima, the daughter of the Prophet, and his grandson, Mahomed bin Ali Reza, surnamed El Taki, or the Pure. The tomb consists of two domes, covered with gilt tiles, and four minarets, very prettily built with enamelled tiles. The whole is enclosed within four high walls, which partially hide the sacred precincts from the eye of the unbeliever. From a distance the domes present a very beautiful appearance, and serve as landmarks for many miles.

Kathemain contains about 15,000 settled inhabitants, whose numbers are swelled by influx of pilgrims. These are all of the sect of Shiahs. Four miles to the south-east of this shrine stands the tomb of Zobeyda, the favourite wife of Haroun el Rasheed, a name familiar to all readers of the 'Arabian Nights.' This has been piously kept in tolerable repair up to the present time, and was accessible not many years ago, but the entrance is now bricked up.

A survey of Baghdad and its environs on a large scale was



made by Commander Jones and Mr. Collingwood, of the Indian Navy, and forwarded to Government, with a memoir on the province. These were published in the Bombay Government Records, No. XLIII. It will be sufficient to note here that Baghdad was built in the year 145 of the Hegira (A.D. 762), by Munsoor, the second Khalif.

The accounts given by the Arab historians are both interesting and amusing. Many of these stories concerning the building of the town and the events that occurred during the reigns of the Abasside Khalifs, have found their way into 'Crichton's Arabia' and other works.

In A.H. 656, Mustassem Billah, the last Khalif, was put to death by Hulaka Khan when he captured the city. Most of the public buildings were then destroyed, and it is probably due in a great measure to this prince that Baghdad of the present day shows but few traces of its former magnificence.

After being taken and retaken by the Turks and Persians, Baghdad was finally conquered by Sultan Murad IV., in A.D. 1638. "Since that period," to quote Crichton, "the once illustrious city of the Abbassides has been degraded to the seat of a Turkish Pashalic." Among the few remaining ruins that mark the Abbasside dynasty in Baghdad may be seen the Medresseh or College built by Mustanser, in the year 630 of the Hegira (A.D. 1232). The inscription on it is being now restored. One of the oldest buildings in the town is the minaret of a mosque called Jama es Sook el Ghuzl, after the thread-market near which it is. Commander Jones determined the position of this minaret, which he gives in his map of Baghdad, as in lat. 33° 20' N., long. 44° 25' E. Close to the westward of Baghdad are several deep openings of the Saklawiyeh canal, or, more properly speaking, of the marsh formed by the Saklawiyeh. Through one of these, Masaoodi, Captain Lynch brought the *Euphrates* steamer in 1838. The Saklawiyeh is now closed, both on the Euphrates and Tigris.

The large and conspicuous ruin now called Akr Kûf is 10½ miles, a little north of west, from the bridge of boats at Baghdad. This ruin is composed of sun-dried bricks, 14 inches square and nearly 4 inches thick. Between the layers of bricks is one of reeds or mats, and between every seventh and eighth an extra thickness of these reeds can be noticed. This mass of sun-dried bricks is solid to all appearance, is nearly square in shape, and stands on a ruin of apparently kiln-burnt bricks and lime. It is surrounded by extensive ruins, which have been partially opened by Mr. Loftus.

A canal appears to have passed close to the eastward of Akr Kûf, but as I have traced it till it was lost in the Saklawiyeh

swamp, I am unable to say from which river it came. Akr Kûf is spoken of by Chesney, and also in Rawlinson's 'Ancient Monarchies,' as being on the Saklawiyeh. It is supposed by General Rawlinson to be the ruin of a Parthian town occupying the site of an earlier Chaldean city (Note to p. 27, vol. i. 'Ancient Monarchies'). It is marked in Chesney's map as the ruin of Accad of the Bible, and in Mr. Rawlinson's work as the site of Duraba. Its summit is now 126 feet above the level of the raised ground near it, and the shapeless mass can be distinctly seen from both rivers. Yakuti, speaking of Akr Kûf, says it was supposed in his time (about A.H. 613) to have been the burial place of Sassanian kings.

The Abu Ghurraib is a modern canal, now in use, emanating from the Euphrates at a point 34 miles west of Baghdad, and about 68 miles direct from Hillah. This canal appears to have been cut in the bed of the Nahr Aeesa, an old canal of the time of Munsoor, the founder of Baghdad. The Saklawiyeh canal, which leaves the Euphrates about 6 miles above the Abu Ghurraib, is supposed by Chesney ('Expedition to the Euphrates and Tigris,' vol. i. pp. 32 and 55), and others quoting him, to correspond with the Nahr Aeesa. My reasons for thinking that the Abu Ghurraib and the Nahr Aeesa correspond are as follows:—There is a ruin of a tomb now in existence on the Abu Ghurraib canal, which is described in the 'Majm el Buldan' of Yakuti as being on the Nahr Aeesa. Besides this evidence, there is that of the Zoaba Arabs, the present cultivators of the Abu Ghurraib district, who frequently told me that their canal was cut in the bed of an older stream called the Aeesawi. Chesney considers the Abu Ghurraib to coincide with the Nahr Serser of Abul Feda (Map No. 7 of the Series, and vol. i. p. 55 of his work), yet, in the next page, he says the Abu Ghurraib corresponds with the El Melik, a canal to the southward, which I will presently describe; also at p. 281, vol. i., where he says the ruins of Kush are on the Nahr Malka; these ruins he has previously identified with Sindiyeh, and placed them on the Abu Ghurraib or Nahr Serser. There is great confusion in the letterpress as to these canals, but in the map they are very distinct, and the Abu Ghurraib is marked as the supposed Nahr Serser of Abul Feda. Either of the two canals now called Abu Sumak and Sewadiyeh might correspond with Abul Feda's Serser. These may have been cut in the bed of older streams, but they had not sufficiently the characteristics of navigable canals to warrant my marking them as such. The old name of Serser as applied to a canal seems quite unknown to the present Arabs.

Abul Feda says the Serser left the Euphrates below the

Aeesa till it comes to Serser, which is described by Edrisi as a flourishing commercial town, 9 miles from Baghdad, on a navigable canal on which there is a bridge of boats. After watering all these countries, he says, it joins the Tigris between Baghdad and Modain ('Expedition to the Euphrates and Tigris,' vol. i. p. 56). Yakuti, in the 'Majm el Buldan,' says "Serser—two villages within the limits of Baghdad, the great Serser and the little on the Nahr Aeesa, and *sometimes called the Nahr Serser*, and the distance between the little Serser and Baghdad is two fersakhs, and it is on the road to the Haj from Baghdad, and was called in former days Serser Ed Deir."

Where two such good authorities as Abul Feda and Yakuti disagree, it is difficult to form an opinion, but it seems probable that the Nahr Serser was a branch of the Nahr Aeesa.

At a place called Munfuth (meaning a place where water flows), the old stream which I have thought was the Nahr Aeesa bifurcates: one branch going on to the Tigris, a little south of Baghdad, and the other taking a more southerly direction. There are ruins in great abundance at this spot,—in fact, in wonderful profusion; and the distance from Baghdad of 17 miles almost corresponding with that given by Edrisi, they might very probably be the ruins of the town of Serser,\* in which case the southern branch canal might be the Serser, as described by Yakuti.

Senadiyeh, or Sindiyyeh, which I have previously mentioned, is the ruin of a handsomely-built mosque or tomb. It is on the Abu Ghurraib, and is distant  $20\frac{1}{2}$  miles from Baghdad, from which it bears about w.s.w. It is falling fast into decay, the dome having fallen in. Yakuti mentions this place, and says that it took its name from a man of Sindwan, who was in or governed the district; and he seems to say, for he is not very distinct on the subject, that this man died there in A.H. 503. The tomb is apparently of a later or Abasside time. The appearance of the ground in the neighbourhood would show that this, as most other buildings now standing, was erected on others then in ruins. This spot was visited, according to D'Anville, by both Balbi and Texeira. A mile and a half to the eastward of Senadiyeh a branch canal leaves the Aeesa, going to the northward; it is called the Akatum, and has every appearance of having been a permanent or navigable stream, as the ruins on its banks are very considerable. I have only traced this stream 7 miles from the fork, as my work ends there. I may be wrong in saying this stream came from the Aeesa, for I had no level and have not ascertained the dip of

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\* "Serser"—Arabic for cricket.

the country. This is generally from north to south, and I may find that this canal took that course.

There are several very peculiar old beds of streams or canals to the westward of Senadiyeh, such as I have only met with in this part of the country. They are 35 to 40 paces broad, and run for miles in a perfectly straight line. They have no ruins on their banks, and in a distance of 30 miles have only two branch canals emanating from them. Had it not been for these two canals I should have taken them for old embankments, although they are now only a foot or two above the level of the ground. The Arabs use them in the winter, when the ground is swampy, as roads, and call them all "Towaeel," which is the diminutive of the word meaning length. They have no idea what they were for, or when they were used, and they are equally a puzzle to me. I have marked them, on the map, with two open lines as navigable canals.

Four miles to the westward of Senadiyeh is a mound called Kuneeseh, or Kunaseh. This name at once attracted our attention, from the fact of the battle of Kunaxa having been fought in the neighbourhood, and from the strange similarity of the two names, Kunaseh being the nearest approach that an Arab could make to Kunaxa. In a country where names of mounds are frequently changed—except, indeed, the larger ones—it seems improbable, and almost too good to be true, that this one particular spot, the site of which has been so long sought for, should have kept its name intact for nearly 2300 years.

Chesney and Ainsworth, who have been over the very ground, have not noticed the name of Kuneeseh, which is the more remarkable, as this mound seems to correspond with that called Abu Ghurraib in the map of the expedition under Chesney. Kuneeseh is the Arabic for "church," and I believe the Hebrew word is very similar. I venture to think that the name Kunaxa, given to the battle on the authority of Plutarch, may be a corruption of the Hebrew word, and that the battle was actually fought at this spot. There could not be a better authority on this point than Mr. Grote, who says, "Following, therefore, the distance given by Plutarch (probably copied from Ktesias), we should place Kunaxa a little lower down the river than Felujah; this seems the most probable supposition" ('Grote's History of Greece,' vol. ix. note 2 to p. 56). The mound of Kuneeseh is 17 miles from Felujah, and  $51\frac{1}{4}$  in a direct line from Babel, the northern mound of those marking the supposed site of Babylon. This agrees, as nearly as may be, with the 500 stadia of Plutarch, which he gives as the distance between the two places.

Whether this supposition be correct or not, there is nothing,



I think, in Xenophon's account of the advance or retreat of the Greeks that would disprove it. In following the tracks of the Greeks, I will take Pylœ as a starting-point. This is marked in Chesney's map as 22 miles from Hit. Commander Jones, of the Indian Navy, a former surveyor in Mesopotamia, thinks it should be identified with a place called Bekaa ( $9\frac{1}{2}$  miles to the south-eastward of Hit), from the fact of the Arabic word Bekaa having about the same meaning as the Greek Pylœ, and from the fact that there is actually a narrow pass at that place ('Bombay Selections,' No. XLIII., p. 263, note). From Pylœ the Greeks in three days marched 12 parasangs; then, in one day, 3 parasangs. It was in the middle of this march that they came to the trench supposed to have been cut by Artaxerxes, and passed it by a narrow passage of 20 feet. This description will exactly apply to an irrigating canal in the process of construction. A passage of about 20 feet broad is always left to keep out the water of the river while it is being dug, or till the time for watering the land arrives. Further on, Xenophon says it was not the time for watering the crops (p. 88, 'Spelman's Xenophon'). As to the trench extending 12 parasangs to the Median wall, this could only have been stated on hearsay evidence. Xenophon then mentions the four canals which are in the plain. Chesney seems to lay great stress on this passage, for, in vol. ii. p. 216, he says, "The Isa, the Nahr Serser, and other canals were so many successive lines of defence." Whereas these canals were cut more than eleven hundred years after the battle. Mr. Grote, in the map accompanying the 9th volume of his 'History of Greece,' has placed these canals to the southward of Kunaxa. He also notes that Major Rennell, Ritter, Mr. Ainsworth, and Chesney, have wrongly interpreted the words of Xenophon, who does not say that Cyrus ever passed the wall of Media or these four canals before the battle of Kunaxa ('History of Greece,' vol. ix. p. 88). Xenophon says the water was derived from the Tigris and fell into the Euphrates, and he repeats this statement about the two canals passed after the battle. This seems to be a mistake, as all the canals in this part of the country would, from its dip, be necessarily cut from the Euphrates to the Tigris. To continue in the footsteps of the Greeks. They had already marched from Pylœ 15 parasangs, and if 7 parasangs are allowed for the next two marches, it will give 22 parasangs from Pylœ to the field of battle. Bekaa is distant from the mound of Kuneeseh 59 miles, in as straight a line as it is possible to go. This divided by 22 would give nearly  $2\frac{3}{4}$  miles to the parasang, which is about correct. It is worth noticing that the pebbly ridge close to Kuneeseh would exactly answer to the descrip-

tion of the hill mentioned by Xenophon, on which Artaxerxes' cavalry made a stand after retreating from the Greeks. Mr. Ainsworth, in his 'Track in the Footsteps of the Ten Thousand,' says he supposes this eminence to have been a tel or artificial mound, as there are no natural mounds in the country; but he is mistaken in this latter assumption, for the ridge I allude to is 13 miles long and 80 feet high, if not more.

The direction of the retreat of the Greeks from their encampment, a day's march to the north of the battle-ground, has given rise to much discussion. Xenophon says, "as soon, therefore, as it was day, they began their march, with the sun on their right" ('Spelman's Xenophon,' p. 84). This, at first sight, would appear to be a northwardly or north-north-eastwardly direction; and the difficulty is to reconcile this with the very next words, "expecting to arrive by sunset at some villages that lay in the country of Babylon," and with the fact that they did eventually arrive at Sittaki, a city on the road between Babylon and Susa, or to the eastward of the former city. Mr. Grote thinks that by the sun on their right hand was meant the mid-day sun ('History of Greece,' vol. ix. p. 76, note). Is it not possible that the Greeks may have made a détour, wishing to avoid the troops of Artaxerxes, and, perhaps, keeping the pebbly ridge between the enemy and themselves?

The position of Sittaki has been variously placed. Chesney supposes Sheriat-el-Beytha to have been the site (vol. ii. p. 221). Sir Henry Rawlinson, on the testimony of Captain Jones, thought that the western suburbs of Baghdad were built on the ruins of Sittaki (Bombay Government Records, No. XLIII., note to p. 3). Mr. Grote has placed them on the eastern side of the Tigris, and about 3 miles to the southward of Baghdad (map accompanying vol. ix.). Mr. Rawlinson, in the map pre-facing the first volume of his 'Ancient Monarchies,' has placed Sittaki, or Psittace, 33 or 34 miles to the south-eastward of the Diyaleh river, and on the eastern bank of the Tigris.

Strabo says that Sittaki was on the road from Babylon to Susa, and 500 stadia from the former city. I shall venture at present upon no opinion of my own as to the proper position of Sittaki, but shall suppose it to have been near that marked in Mr. Rawlinson's map. As I have only seen the first volume of the 'Ancient Monarchies,' I do not know what ruins Mr. Rawlinson supposes to have marked the site, or by what name they are now known. Some ruins on the eastern bank of the Tigris, now called Deir, might correspond with Sittaki of Mr. Rawlinson. The Tigris flowed at one time apparently to the eastward of Deir; for Lieutenant Collingwood, who surveyed the country opposite this ruin, and traced canals running towards it, says,

"I traced straight on towards the river, and from the top of 'Abdulla,' a mound a little to the southward, saw mounds on the opposite bank leading to Deir, evidently the continuation of the canal. The other canals I did not quite follow to the banks—high brushwood intervening; but they all centered in the same spot, and the people there informed me that they all reappeared on the opposite bank" (Extract of a letter to Colonel Kemball, c.b., Political Resident, Baghdad). The mounds of Deir are situated, according to Lieutenant Collingwood's map, at a distance of 67,000 yards from Babel, and 66,000 yards from the mouth of the Diyala River, near which spot Mr. Rawlinson places Opis, and to which I shall allude further on.

The Greeks, after three days' march, passed the wall of Media. The position of this wall has been much discussed. From the discoveries of Captain Lynch and Dr. Ross it was supposed that the ruins of the Median wall could be traced stretching across from the Tigris at latitude  $34^{\circ} 3' N.$ , in a south-south-westerly direction to the Euphrates. Commander Jones, who examined the spot in 1850, says of it, "neither in its construction or extent will it in any way answer the description of the ancient writers" (Bombay Government Records, No. XLIII., p. 263). Mr. Grote, quoting this, says, "From this important communication it results that there is as yet no evidence now remaining for determining what was the line or position of the wall of Media, which had been supposed to be a *datum* positively established, serving as premises from whence to deduce other positions mentioned by Xenophon" (vol. ix. note p. 88). A line drawn from Tel Kuneeseh to the ruins of Deir would exactly touch the ruin of a wall now called Hubles-Sukhr, or line of stones or bricks. The ruins of this wall may be now traced for about  $10\frac{1}{2}$  miles, and are about 6 feet above the level of the soil. It was irregularly built; the longest side running E.S.S. for  $5\frac{1}{2}$  miles, it then turns to the N.N.E. 2 miles, then east  $1\frac{1}{2}$  mile, turning down S.S.E. for another mile and a half. An extensive swamp to the northward has done much towards reducing this wall. The two caravanserais at Khan-ez-zad are also in a great measure built of bricks from it, and it has doubtless supplied materials for many other buildings. There is a considerable quantity of bitumen scattered about, and it was probably made of bricks set in bitumen. I can see nothing in Xenophon which would show that this is not the wall the Greeks passed, for what he says of its length was merely what was told him. I think that this must be the ruin of the wall called that of Media which Xenophon describes; but I mention this supposition with much diffidence, and for the benefit of those better able than myself

to judge of its being correct. The distance from the northern point of this wall, as now seen from the encampment, might be, allowing for a *détour*, about 32 miles. Whether this was done in three or four days' marching has been disputed, but I do not think that this is of much importance either way.

"From thence they made, in two days' march, 8 parasangs, and passed two canals, one upon a bridge and the other upon seven pontoons." These two canals might have been the Nahr Malka, and the old canal, the bed of which is now called Hubl-ed-Dthehheb. This latter was either a continuation of the Nahr Malka or a stream from the Tigris.

Allowing the 8 parasangs to be 24 miles, and that the Greeks crossed the second canal at the end of these marches, they would have done so at a point nearly 12 miles south of Ctesiphon, and nearly 15 miles from Deir, which I have already said seems to mark Mr. Rawlinson's Sittaki. Xenophon, after stating that they crossed these canals, says, "thence they came to the river Tigris, near which stood a large and populous city called Sitace, at the distance of 15 stadia ( $1\frac{1}{2}$  mile) from the river" ('Spelman's Xenophon,' p. 94). It seems to me that another day's march could be allowed from the canal crossed by a pontoon bridge. The island on which Xenophon says Sitace stood would have been formed by the Tigris on one side, the old stream now called Hubl-ed-Dthehheb on the other, and, perhaps, two branch canals. After crossing the Tigris, the Greeks marched 20 parasangs in four days to the river Physcus, on which stood the large town called Opis. The position of this spot has not been determined as yet. Mr. Rawlinson, in his map (accompanying vol. i. of his 'Ancient Monarchies'), puts it on the Diyaleh, which he supposes was the Physcus, and about 3 miles from the Tigris. Chesney has placed it 57 miles to the northward of Baghdad, close to one of the heads of the Nahrwan canal. Captain Lynch, of the Indian Navy, had previously supposed it to be on the same side of the Tigris (the eastern), but about 19 miles more to the eastward (Map No. VII. of the 'Expedition to the Euphrates and Tigris'). Mr. Grote has given Opis the same site as Chesney apparently (map in vol. ix.). Commander Jones, in a paper sent in to Government in 1851, announces the discovery of the site of the ancient Opis, which he supposes rather confidently to be marked by the ruins at a place called Manjûr, about 38 geographical miles north of Baghdad (Bombay Government Records, No. XLIII., p. 215). I have mentioned where Mr. Rawlinson places Opis, but I am unaware what ruins he supposes mark the site. Whether I am correct in any of the suppositions I have mentioned or not, I think I



am justified in saying that nothing but a very careful survey of the country to the northward will ever be of any use in determining whether the positions at present assigned to any of these places be correct. The matter will not, I imagine, be considered decided as long as it is uncertain what evidence may be obtained from the country to the north-west of Baghdad, which is as yet unsurveyed. In a casual trip across the country important ruins might be very easily overlooked; and it is notorious how little the statements of the Arabs can be trusted, when from laziness or fear of other tribes they wish to avoid scouring the country. Commander Jones seems to have found this to have been the case when he was examining the embankment supposed to have been the Median wall.

Five and a half miles to the east-south-eastward of Kuneeseh are the remains of what appears to have been a house or fort, surrounded by a rampart. A small hill of pebbles has been taken advantage of to build it with. The walls or ramparts are about 18 feet high, and have others projecting from them. The main ones surround the building or ruin, the whole covering about a square mile of ground. Less than a mile to the eastward is another similar ruin, but smaller. They are both known by the name of Dowair, which is the diminutive of Dour, a circle.

There are two very high mounds in this neighbourhood, both called Akr or Akar. Akr-el-Ajedeh \* is  $1\frac{1}{2}$  mile east of Kuneeseh, and is a most imposing-looking mound. It is built of kiln-burnt bricks, and is 74 feet high, by far the highest in the area comprised by my map. It does not cover much ground, being 220 yards long. The other Akr, which is distinguished from its namesake by the word Gherbi or the west, is in the north-west angle of the map, and a little north of west, distant 9 miles from Akr-el-Ajedeh. This mound is built of sun-dried bricks, and is not so large as the other one.

The mound of Kuneeseh is about one mile in length, and about 35 feet high. It is separated by a chasm into two parts, and is covered with a loose nitrous soil called in Arabic Subkh. Indeed, the country close to the southward is as white with saltpetre as if it had been covered with a thick fall of snow.

The next old navigable canal to the southward is one which is universally allowed to correspond with the Nahr Malka, Basileios-Potamos, or Flumen Regium of the ancient geographers and historians. The Ruthwaniyeh, a canal, now in use,

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\* There are many meanings in Freytag's dictionary corresponding to a mound or palace or keep, applicable to either Akr or Akdeh. The K and the J being often interchangeable (though not correctly) this latter word may be pronounced Ajdeh.

but with several mouths of older date, has been cut apparently for a part of its course in the bed of the Nahr Malka. A part of it, which is unused, now reaches an old village called Ibrahim-el-Khaleel, beyond which the Ruthwaniyeh seems never to have extended. This village has some well-built houses in it, with an upper story to the rooms. The tomb of Ibrahim-el-Khaleel is now in ruins. The Arabs say this village was built by a Pacha of Baghdad, for a favourite daughter, and was in existence in the beginning of the century. It is 20 miles south-west of Baghdad;  $2\frac{1}{4}$  miles to the east-south-eastward is another old tomb in ruins, called Sheikh Samer. From Ibrahim-el-Khaleel, the Nahr Malka, which is now called the Yuseffiyeh, takes a direction of south-east by east with many twists, and many ruins on its banks. Following the old stream, we come to a very curious ruin called Abu Hubba, which bears south-south-west from Baghdad, distant 20 miles. Here the stream bifurcates, one branch, the Yuseffiyeh, going on towards Ctesiphon, and the other, which is simply called El Trab, or soil, taking a more southerly course.

Abu Hubba itself consists of a mass of ruins of a very irregular shape. The highest part, which is 59 feet high, is of a dome shape, and is on the south-west side of the building. This ruin is surrounded on three sides by a rampart or wall, in shape a rectangle, with openings every here and there. This is 30 feet high in places. The building inside is skirted on the south-west face by the branch canal from the Nahr Malka, and it extends from that till it touches the north-east face of the rectangle. Its length is 1300 yards, and breadth 900 yards. Deir, another ruin close to northward of the Nahr Malka, is something similar in shape to Abu Hubba, and is distant from the latter three miles to the north-eastward. The ramparts of Deir are, if anything, higher than those of Abu Hubba, but in shape are roughly a quadrant of a circle. There are traces of branch canals or intrenchments round both these ruins. They have the appearance of fortified camps, something like the old ones I have seen in the north of France.

The Yuseffiyeh, or Nahr Malka, flows on with very sharp bends, and giving off many high-banked irrigants, passing close to the southward of Khan-ez-zad. On the northern bank of the old stream, and distant 11 miles from the Tigris and  $1\frac{1}{4}$  mile from the Khan, are some very extensive mounds, now called Ghazelliat. They cover a large surface of ground, and from the quantity of burnt date-wood to be seen amongst the débris in places where they have been opened for bricks, they appear to be ruins of buildings destroyed by fire.

In a bight of the Nahr Malka, and  $1\frac{1}{2}$  mile to the eastward

of the principal Ghazelliat mound, is a Tel, or ruin, called Muneyter; this word is probably taken from the root Nutter of the verb to watch, forming its noun of place Muntur, and diminutive Muneyter. This mound, though not large, is worthy of note, for it is covered in great profusion with iron slag, and cropping above the surface are remains of what appear to have been furnaces for melting iron. They are of baked clay and bricks, circular in form, and varying in diameter from 5 to 10 feet. Branch canals from the Nahr Malka appear to have intrenched this building.

Another mound, two miles to the southward, called Sukhr-eechy (derived from the word Sukhr, a stone), has a still greater profusion of iron refuse on its surface and in its neighbourhood. Not knowing the nature of this débris, I put my prismatic compass on a small heap of it to take a steadier bearing, and was surprised to find the needle deflected several degrees.

From Muneyter the Nahr Malka is called Hubl-es-Sook, and flows on with various twists in a south-easterly course to the river, close to which its banks are very high; this part of it having apparently been frequently deepened. At the distance of nine miles from the river a canal, with high banks, has left the Nahr Malka, going to the eastward, having apparently joined the Tigris above Seleucia. Another, one mile to the westward of this one, also leaves with a northerly course towards the river. At the point where these emanate from the stream, their banks are very high. The Arabs call these places Shibbij, which may be a corruption of Shebak, a net, for there is literally a net-work of canals at these places, most of them only going a short distance. One of these two canals, extending close to the Tigris, might correspond with that cut by Trajan, and re-opened by Julian to take their boats into the Tigris above Ctesiphon.

There are very extensive ruins all about this spot, marking the ancient site of Seleucia. After the decadence of Babylon, and the death of Alexander the Great, Seleucia was founded by Seleucus Nicator, about 300 B.C., and became the capital of Babylonia. A most interesting account is given by Gibbon of the rise and fall of Seleucia and Ctesiphon, successively the chief city of Babylonia. When the latter city became a powerful Parthian town, Seleucia declined in power. It was sacked and burned by the Generals of Marcus, A.D. 165, and never recovered the blow (Gibbon, p. 78). Trajan had previously captured Ctesiphon (A.D. 107), but it had been restored by Hadrian to the Parthians. In 198 the Emperor Severus attempted the capture. The Emperor Valerian was taken

prisoner, and tortured to death at Ctesiphon. It was at this time that Odenatus, Prince of Palmyra, and husband of the celebrated Zenobia, attempted his rescue, but Sapoor, although defeated in the field, managed to hold the city. The Roman Emperor Carus captured both Seleucia and Ctesiphon in A.D. 283, but being killed by lightning, the Romans were compelled to retire. In A.D. 363, Julian, after capturing Perisabor and Moaga Malka, also tried to take Ctesiphon, but failed. Perisabor was a corruption of Ferooz Saboor, a city which was also called Anbar. The ruins are still known by this latter name, and are about two miles north of Felujia. Though not in my work, I rode over to see the ruins of a town once so celebrated. Chesney supposes that a mound marked Tel Akher marks the site, but he seems to have been to the very spot, and strangely missed the name; for a mound marked Medina-Ombarra, in his Map No. 7, seems to be meant for Anbar, or to occupy about the position. The city of Moaga Malka, that was afterwards taken by Julian, was 11 miles from Ctesiphon. Gibbon says, "the city or rather fortress of Moaga Malka, which was defended by sixteen large towers, a deep ditch, and two strong and solid walls, appears to have been constructed at the distance of 11 miles as the safe-guard of the capital of Persia." I do not know whether the position of this city or fortress has been in any way determined, but, perhaps, either the ruin now called Shaishebar or the Ghazelliat mounds might mark the site. Shaishebar, which is 11 miles from Seleucia, might mark the spot. It is a ruin of a square tower built of sun-dried bricks, in shape and appearance like Akr Kûf, only much smaller. It is on an old canal, and has very many mounds all about it, and débris of buildings cover the soil for miles. I have no idea what the meaning of the word is. I have not, I am sorry to say, a copy of Ammianus Marcellinus, but I see that Gibbon says after the capture of Moaga Malka it was so destroyed that not a vestige was left to show that such a city had ever existed.

In the reign of Chosroes Nushirwan, from 531 to 579, the Parthian Empire became so powerful that Gibbon says of this king—"victorious and respected among the Princes of Asia, he gave audience in his palace of Modain or Ctesiphon to the ambassadors of the world. Their gifts or tributes, arms, rich garments, gems, slaves, or aromatics were humbly presented at the foot of his throne"—(p. 696). It is the ruin of this palace which is now to be seen, and which is still called Tak Kesra, or arch of the king.

As the ruin now stands, it consists of a magnificent arch, 86 feet high from the under part of the ground, and 82 feet



broad at the foot. From this arch a vaulted room extends 153 feet to the rear. The roof of this has partially fallen in, and tradition says the place was struck by lightning in the year of the Prophet's birth. The building faces the winter sunrise, or east-south-east, from which direction it has a most imposing appearance. The front walls of the two wings are alone standing, the rooms having fallen in. In the centre of the arch are marks of thousands of bullets that, report says, were fired at a huge ring which supported the curtain of the audience chamber. This ring had, doubtless, excited the cupidity of the Arabs during many centuries, and defied all attempts to remove it till gunpowder put a more formidable agent into the hands of its many enemies. Mr. Rich was told that this ring proved to be of gold.

Ctesiphon is now the only Parthian or Sassanian ruin in this part of the world not converted by time and decay into a heap of rubbish. It was finally conquered by the Mahomedans soon after the death of the Prophet. Of the two cities of Seleucia and Ctesiphon or el Modian there are not as many ruins as might be expected to mark their sites. Of the former, Tel Omer and Sirhan, two mounds of no great size. (The former was opened by Mr. Taylor, now Her Majesty's Consul at Erzerum and Diarbekr.) There are also the remains of a wall which abut on the river, where it is upwards of 30 feet high. This was built of sun-dried bricks, and appears to have surrounded the mound of Sirhan. It continues in the same direction on the eastern bank of the Tigris, and, if we did not know that the rivers separated the two cities, as it now does their ruins, one would be apt to think that it formerly flowed to the northward of the latter city. There is a swamp near Tel Omer which has doubtless swallowed up many of the ruins of Seleucia, as low mounds and ridges of bricks and lime can be traced all over it. Round about Tak Kesra are some low ruins of buildings and a few small mounds. A canal seems to have passed close to the westward of the palace, and was probably from the Nahrwan. To the westward of the palace are the ruins of a wall similar to that on the opposite side. This forms an arc of a circle, both ends abutting on the river, with ruins of buildings enclosed. A mile and a half to the east-south-eastward is another wall, called by the Arabs Soor-el-Bostan, or garden wall. It forms a right angle, with both ends on the river. There are two old tombs near Tak Kesra, one called Sulman Pak and the other Hadaetha or Hadaefa. They are both supposed to have been contemporaries of the Prophet, the former is popularly believed to have been his barber. The Tigris, after flowing past the ruins of Modain, continues to the

southward for about five miles, and then turns sharply to the northward for about the same distance, forming a very peculiar bight. Exactly in a line with the direction of the Hubl-es-Sook or Nahr Malka, and on the opposite side of this bight are the traces of a canal or navigable stream, which I have previously mentioned, called Hubl-ed-Dthehheb. There are marks in the Ctesiphon bight which would show that in former years the bottom of the bight was to the northward of a line drawn across, connecting the two streams. I cannot help thinking that the Hubl-ed-Dthehheb was a continuation of the Nahr Malka. I am aware that almost all the ancient authorities (Pliny, Ammianus, and Polybius) agree in stating that the Nahr Malka fell into the Tigris at Seleucia, but Ptolemy, I believe, says it fell into that river some distance below Seleucia.

It would certainly have been of enormous advantage to the country to the southward of Seleucia if the waters of the Euphrates, brought down by the Nahr Malka, had been conveyed over it. It is true that this might have been done by irrigants, still leaving water enough to form a navigable canal flowing into the Tigris at Seleucia. That the Nahr Malka and Hubl-ed-Dthehheb appear to have been one stream, a glance at the map will show.

Abul Feda says, the el Melek was the next canal to the southward of the Serser. Yakuti says, it is beyond the Nahr Aeesa, and watered 360 villages, and that it was dug by Solomon, the son of David, according to some, and by Alexander the Great according to others. The branch that leaves the Yuseffiyeh, at Abu Hubba, again bifurcates at a place four or five miles to the south-eastward, called Khushm-ed-Dhteab (or the Wolf's Nose). There are several smaller canals at this spot radiating in different directions, and extensive ruins lie scattered about. The stream at this point must have been frequently deepened, as the canals have very high banks. One of the main branches passes close to the ruin called Shaishebar, which I have previously mentioned. From Khushm-ed-Dhteab the other branch goes to the south, turning after  $1\frac{1}{2}$  mile due east, gradually assuming the appearance of an irrigating canal. Close to the southward, and passing within a few hundred yards of this last stream is the bed of another old navigable one, the Arabs call this Abu Dibbis. It leaves the river 34 miles above Babel, and flows close to the northward of a ridge of pebbly formation. It is very indistinct in places, the ground having at one time been a swamp. Numerous high banked canals seemed to have joined these two streams, taking the water of the northern into the southern one, after its own mouth had become

choked up or unused. This spot is also called Khushm-ed-Dtheeb, and the old canals form a perfect network, and cross one another in such confusion that it is with the greatest difficulty that the parent stream can be traced. It winds considerably, and has ruins on its banks; indeed, were it not for the débris on its banks and the abrupt endings of the high-banked irrigants, it would, in places, be impossible to trace it.

This stream must have taken nearly all the water of the Euphrates (left by the Nahr Malka), if it was not that river itself. From the paucity of ruins on the Euphrates to the southward of the Abu Dibbis, and from the immense number on this stream, it would appear that the old Euphrates flowed to the eastward of the pebbly ridge, which extends 13 miles south-east and north-west. There is a narrow gap between this ridge and one on the opposite side of the present Euphrates, between which that river flows. A canal might have been cut through this gap, which gradually enlarged till it took the whole of the river. What would seem to make this probable, is the fact that the old stream, which flowed to the eastward of this ridge, appears to have joined the present course of the Euphrates above Babel.

The old bed of the stream I am now describing flows close to the westward of Khan Bir Eunus, goes on with many twists and ruins, passing close to the eastward of Khan Haswa, where it bifurcates. The western branch goes down towards Babel, and the eastern, called Hubl Ibrahim (hubl—a line), passes close to the westward of the huge mound called Tel Ibrahim. This seems to correspond with the Nahr Kuthiyeh of Abul Feda, which, he says, left the Euphrates below the el Melek, and that it divided into two branches, one going into a swampy country, and the other entering the Tigris below the el Melek. The western branch is called by Chesney ed Dhiyab, but though I asked many Arabs by what name it was known to them, they one and all said that it was generally called el Mutn, which means a hard or raised roadway.

I may here remark that there are several names in Chesney's Map not to be met with now. Notably, the mounds of Mahomed, near which he supposes the battle of Kunaxa to have been fought (Map No. VIII.), also the mounds he calls Ashikwa-Mashukah, 10 miles below Modain (vol. i. p. 56), names which I did not hear from the Arabs.

The Mutn, which is also called el-Khoor, or the channel, at the spot where it leaves the Hubl-Ibrahim, goes on, with various twists or bends, towards Babel, near which it seems to rejoin the Euphrates. Four miles from the fork, and on the

western bank of the stream, are ruins, called Towaibeh. These are called the ruins of Kutha in Chesney's Map.

Towaibeh is not an uncommon name for ruins built of sun-dried bricks. The word itself is, I believe, an Arabic diminutive of the Turkish word *Tabeah*, or a fort of some kind. *Akr Kûf*, *Akr-el-Gherbi*, *Shaisheba*, *Towaibeh* on the *Mutn*, and another ruin, also called *Towaibeh*,  $12\frac{1}{2}$  miles to the north-west of its namesake, have all the same characteristics, and are the only ruins of the kind in this map. They have all a central solid tower of sun-dried bricks, with layers of reeds between the layers of bricks. They are surrounded by ruins of kiln-baked bricks, and lime, and bitumen. Canals or streams have passed close to them. They give one the idea of having been watch-towers, in the centre of the towns.

Towaibeh is close to the eastward of the road between Baghdad and Hillah, and would strike the eye of any one passing. It is not quite four miles from *Khan Haswa*. On the ruins to the north-westward of the tower are two round knobs, which exactly have the appearance of a porch or entrance to the building.

There are very extensive but low ruins all about Towaibeh. From here to the southern limit of the map, the *Mutn* has a great number of ruins on its banks. The plain to the eastward is covered for miles with *débris* of glass, pottery, glazed and unglazed, in such wonderful profusion, that however accustomed to the sight of ruins, one cannot but feel astonishment. For miles a horse cannot take a step without treading on glass or glazed pottery, made with a skill that is now completely lost even to the workmen of the capital of Turkish Arabia.

The other branch of this stream flows on (the present tense is only used for brevity), on with some very large ruins on its banks, till it reaches *Tel Ibrahim*, which mound, as I have already said, is the *Kutha* of Mr. Rawlinson. After passing *Tel Ibrahim*, the *Hubl* seems, by Lieutenant Collingwood's map, to have joined the *Shat-en-Neel*, and to have fallen into the *Shat-el-Hye*, a branch stream from the *Tigris*.

The mound of *Tel Ibrahim* is  $17\frac{1}{4}$  miles to the north-eastward of *Babel*; it is by far the largest mound in this part of *Mesopotamia*, is 1000 yards in length, and about 60 feet high. Close to the south-westward is a smaller mound, on which is a tomb, from which the two mounds and the old stream now derive their names. In places where hyenas have made holes, and in places where rain has formed channels in its sides, the walls of the building are exposed. The surface is covered with more than the usual amount of *débris* of glass, pottery, and building material, and on one occasion, when I was riding across with

Colonel Kemball, we found vases full of débris of bones and earth. Kutha, according to Mr. Rawlinson (or Cutha as he spells it), was the city peculiarly dedicated to Nergal or Mars ('Ancient Monarchies,' vol. i. page 172). Seppara, or Sepharvaim, was, according to Mr. Rawlinson, distant 20 miles by a direct route from Babylon, and near Moseyb. There are no ruins of importance on the present Euphrates in this neighbourhood, whereas the old stream, now called El Mutn, is lined with ruins. Is it not possible that Towaibeh (the eastern one) might mark the ruins of Seppara or Sepharvaim?

That the Euphrates north of Babylon did not flow in one stream as it now does, is not only known from the ancient writers, but, also, from more modern historians and geographers, and the truth of their statement is borne out by the appearance of the country at the present day. Herodotus says, that Nitocris, Queen of Babylon, by digging channels above that city, made the river so winding that in its course it touches three times at one and the same village in Assyria (Cary's Translation, p. 80). The fleet of Alexander the Great was, for a time, lost in the windings of the Euphrates. Even so late as the time of Thevenot, 200 years ago, the broad Euphrates was lost in numerous channels carried across the country. Reauwolf, half a century later, says the river was not navigable lower down than a place called Rousvaine (Ruthwaniyeh); beyond this there were rocks dangerous for larger boats. As there are no rocks in this part of Mesopotamia, he, doubtless, alludes to the bricks and débris of buildings that lined the sides of the streams. He also says that, by clearing away the stones, the Euphrates might be made navigable to the Tigris. At Rousvaine, he says, the goods were landed and carried across to Baghdad, whence they were conveyed by boat to Busreh. He also states that the Euphrates divided itself into so many channels that the pilots lost their way very frequently. There is a ruined khan, or caravanserai, called Mujdum, or Mukdum, close to the Ruthwaniyeh, where boats still land lime and bitumen, brought from Hit for the Baghdad market, but such an indirect route for Busreh is not necessary now. The word Mukdum implies a place of bringing to, or making fast to the shore.

The Euphrates has, from the nature of the country, always been the river from which the great irrigating canals in this part of the country have been derived. Its bed is higher than that of the Tigris, and consequently its water has been easily led over Mesopotamia.

This accounts for the great changes that have taken place in the Euphrates even in modern times, whereas the Tigris has.

apparently but slightly altered its course. At the present time it is with great difficulty that boats of any size can ascend the Euphrates at all. About 40 miles above its junction with the Tigris the river is spread over a vast surface of country, and the channel in the low season is in places only two feet deep, and not more than four yards across. This is a great inconvenience, but not an absolute impediment to boats ascending the river, as they generally take smaller boats, into which they discharge their cargo at this spot, re-shipping it further on. When I descended the Euphrates, with Colonel Kemball, in the spring of 1863, our boat had frequently to be dragged through the mud, and the reeds were touching both sides, although 30 years ago the steamers of Chesney's expedition passed up and down and found from 12 to 18 feet of water at this place.

A comparatively small outlay of money would not only render the Euphrates navigable, but would, by allowing the banks to be cultivated, add immensely to the resources of the Pashalic. Besides this, Busreh would become a healthy town instead of a haunt of dangerous fever. Although the country comprised in our map is in most places a barren waste, where formerly most extensive cultivation existed, yet it is not entirely uncultivated. No one who has not seen the country can have an idea of the effect that water has on the soil. The descriptions given by Herodotus of the fertility of the soil seem but little exaggerated.

The Turkish Government adopts towards the cultivators a suicidal policy. It is not so much that the taxes are heavy, but the system of bribery and speculation carried on by the officers of Government renders these taxes but a nominal part of the actual outlay. The present Pacha of Baghdad (Namik Pasha) is believed never to take a bribe, and is very severe to those against whom corruption is proved. But this is a most exceptional case, and is mentioned by Turks even with astonishment. In a country where an honest governor is a curiosity little improvement can be looked for in the condition of either the soil or the people.

Near Baghdad are large fruit gardens which line the river-banks: the date-trees being the most valuable part of them. Cultivation is also carried on along the course of the river, the ground on the banks being irrigated by machines called churds; these are of very primitive construction. The water is drawn up in leather buckets by horses or oxen; by an ingenious contrivance these empty themselves as soon as they have arrived at the proper height; the water is thence led over the country in small channels. The fields so watered seldom extend more than

two miles from the river-bank. Wheat and barley, besides millet, sesame, castor-oil, cucumbers, melons, beans, and other vegetables, are chiefly cultivated.

A system of irrigation by canals from the Euphrates still exists, although but a parody on that carried on by the ancient occupiers of the soil. There are seven respectable-sized canals derived from the Euphrates in the area embraced by our map. These are generally farmed from the Government. Last year, I am given to understand, the income derived from them by the Government was as follows:—

				Kerans.	
Abu Ghurraib	..	..	..	22,500	} About 220 kerans equal to 100 rupees.
Ruthwaniyeh	..	..	..	6,000	
Mahmondiiyeh	..	..	..	11,050	
Iskenderiyeh	..	..	..	1,150	
Moseyb	..	..	..	86,440	
Nasruiyeh	..	..	..	3,041	
Mahaweel	..	..	..	17,500	

The amount of gain from these canals, as well as the income derived by Government, is constantly fluctuating, and depends chiefly, in the first place, on the enterprise and capital of the farmers. But their gain or loss depends upon the amount of the rise of the river, as well as the contingency of a flight of locusts, which sometimes devour whole fields in a few hours.

I have seen the canals full of water in December, when much rain falls on the mountains, and a fresh comes down early. But the highest rise of the Euphrates is generally in May, and that of the Tigris in April.

The canals I have mentioned are from 7 to 15 yards broad at the mouth, and from 6 to 10 feet deep in the high season; they extend into the middle of Mesopotamia; the water is led away from them in branch canals till the main stream is all absorbed. There are many large mounds scattered about over the face of the country which I have not mentioned. A large mound called Tel Hubboos (from the word Hubbus, a prison), is  $11\frac{1}{2}$  miles nearly due south from Ctesiphon. Ajeshiat, 7 miles south of Hubboos, and the same distance from Tel Ibrahim; Tel Dthubba (Hyena), close to the western point of the Hubl-es-Sukhr; Tel Abu Shinaeen (a watery plant which camels eat) on the Hubl Ibrahim and Abu Shiere (barley), both  $8\frac{1}{2}$  miles from Tel Ibrahim, are all large ruins. The principal mounds are nearly all on old navigable canals; some of these appear to have had this character till they reached a large ruin, and thence the water seems to have been absorbed by irrigants. It is impossible at present to judge what breadth these streams were, as the traces of them often vary, within a mile, from 20 to 80 yards



in width, but in few instances do they seem to have exceeded 100 yards.

The country is dotted all over with tombs, generally called Imams by the Arabs. Many of these are of quite modern date, but little respect seems to be shown for many of them by the Arabs, as the older ones are in ruins; some, indeed, are only marked by a heap of bricks and a name.

There is a rather handsome Shiah shrine on the road to the Haj from Baghdad. It is close to Moseyb, and is called Avalad-el-Musleem, or children of Musleem. It has two rather pretty green domes. They are supposed to cover the graves of Ibrahim and Mahomed, sons (or grandsons, according to some) of Musleem, who was the nephew of Ali, son-in-law and cousin of the Prophet. Another tomb, to the eastward,  $1\frac{1}{2}$  mile, is that of Abu-el-Jassim or Kassim, who was the son of one of the Imams. There are many other tombs that will not repay description.

The small scale of  $\frac{1}{144000}$ , on which the survey of Mesopotamia is being taken, precludes the possibility of great detail. It, however, sufficiently answers the purpose, and a larger scale would require a longer time. I am aware of the many imperfections of the sheet which I have completed, but still hope it may be of some small use in helping to elucidate works of valuable information, like the 'Ancient Monarchies' (now being published) by Mr. Rawlinson. I have had no difficulties whatever to contend against in doing this part of the survey, save, perhaps, in eliciting truthful answers to simple questions from the Arabs, who are always too ready to say what they think will be agreeable.

I cannot close this paper without offering my best thanks to Colonel Kemball, the Political Agent of Baghdad, who is always ready to place his knowledge of the country at the disposition of every one.

*Baghdad, 1st May, 1866.*

#### IX.—*Description of Diarbekr.* By R. J. GARDEN, Esq., F.R.G.S.

*Read, April 8, 1867.*

THE town of Diarbekr is built upon the right bank of the Tigris, which rises high and precipitously above the river. It is surrounded by walls defended by towers, some of which are rectangular, others semi-circular. They are of various sizes and heights. Some of these are ornamented with sculptured designs of lions, suns, &c., in high relief; likewise with Arabic or